Best Management Practices (BMPs) for Construction

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BMPs for Construction

- Goal: Retain sediment on site

- Mechanisms:
  - Proper planning
  - Prevent erosion
  - Practice good housekeeping
  - Use structural BMPs as a last defense

Site Planning

- Recognize topography, soils, drainage patterns and vegetation at the site
- Delineate clearing limits, easements, setbacks, sensitive or critical areas, trees, drainage courses, and buffer zones to prevent excessive or unnecessary disturbances and exposure.
- Avoid construction on steep slopes
- Align temporary and permanent roads and driveways along slope contours

Site Planning – Phase Projects

- Phase grading operations to reduce disturbed areas and time of exposure
- Avoid excavation and grading during wet weather

Prevent Erosion

- Divert upland runoff around exposed soil
- Install erosion control devices
- Use soil stabilizers as appropriate
- Use temporary seeding and planting to reduce erosion potential
- Remove existing vegetation only when absolutely necessary
- Roughen or terrace slopes when grading

Practice Good Housekeeping

- Construct stabilized access/entrance
- Utilize entrance/exit tire wash
- Use dry sweeping methods where possible
- Filter sediments in process water
- Check sites frequently (prevention)
- Minimize exposure to rain
- Train employees to recognize problems
- Use a concrete washout area

Utilize Structural BMPs

- Use structural BMPs to protect inlets, reduce velocity, and settle sediment
- BMPs are widely available and include more than silt fence

Structural BMPs (examples)

- Flow barrier (e.g., silt fence)
- Inlet protection
- Settling (e.g., detention/retention)
- Velocity reduction (e.g., check dam)

Structural BMPs

- EPA Menu of BMPs:
  - www.epa.gov/npdes/menuofbmps
  - http://interests.caes.uga.edu/watershed/epa_bmps.htm

The Cheapest Erosion and Sediment Controls are the Most Effective

Practice	Cost	Effectiveness
Phasing construction	$	*****
Protecting disturbed areas through mulching and re-vegetation	$$	****
Installing diversion around disturbed areas	$$$	***
Sediment removal through detention	$$$$	**
Structural controls to treat sediment-laden flow	$$$$$	*

The Golden Rules

1. Preventing erosion is more effective than structural controls

2. Preventing pollution in stormwater runoff can not be an afterthought

Sample checklist:

1. Preserve existing vegetation
2. Divert upland runoff around exposed soil
3. Seed/mulch bare soil
4. Use sediment barriers
5. Protect slopes/channels from gullying
6. Install sediment traps/basins
7. Preserve vegetation near all waterways

Existing vegetation

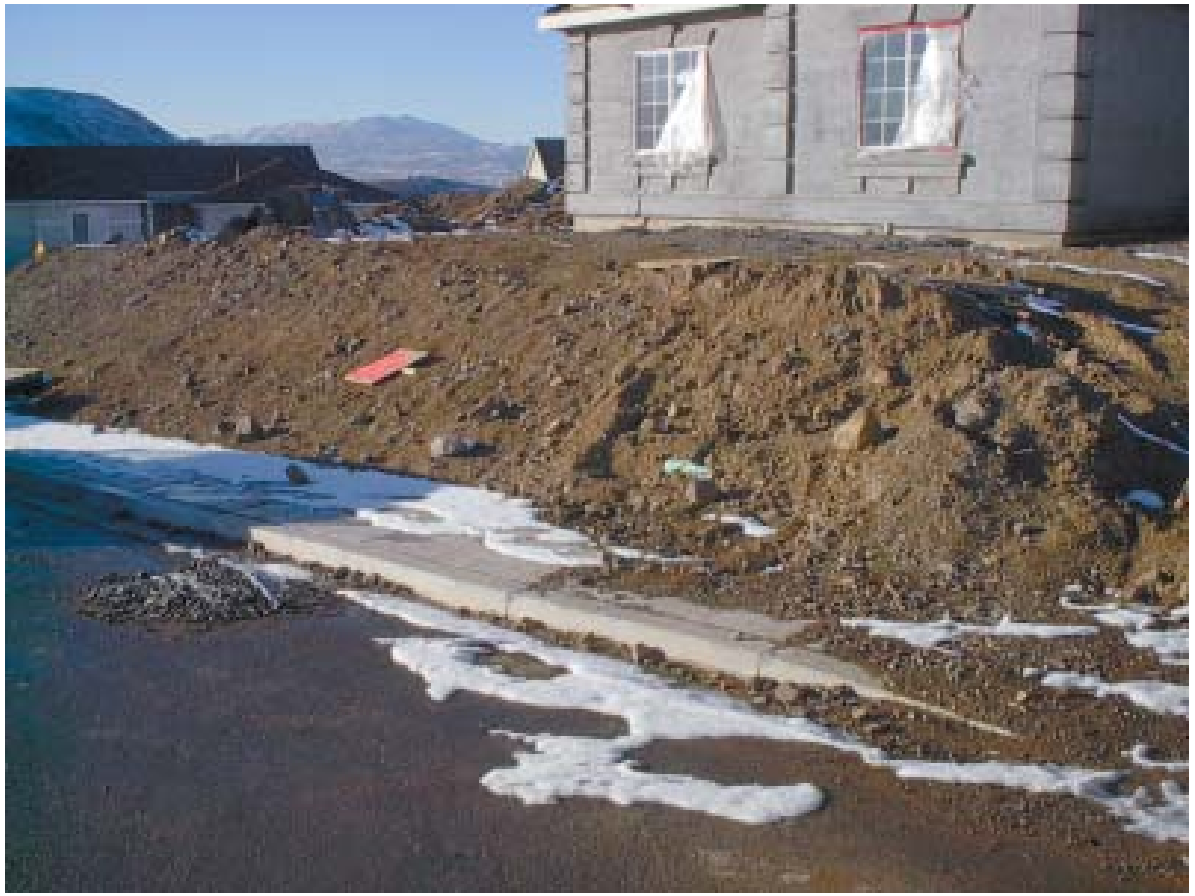
Bad…

Existing vegetation

Good…

Site stabilization

Bad…

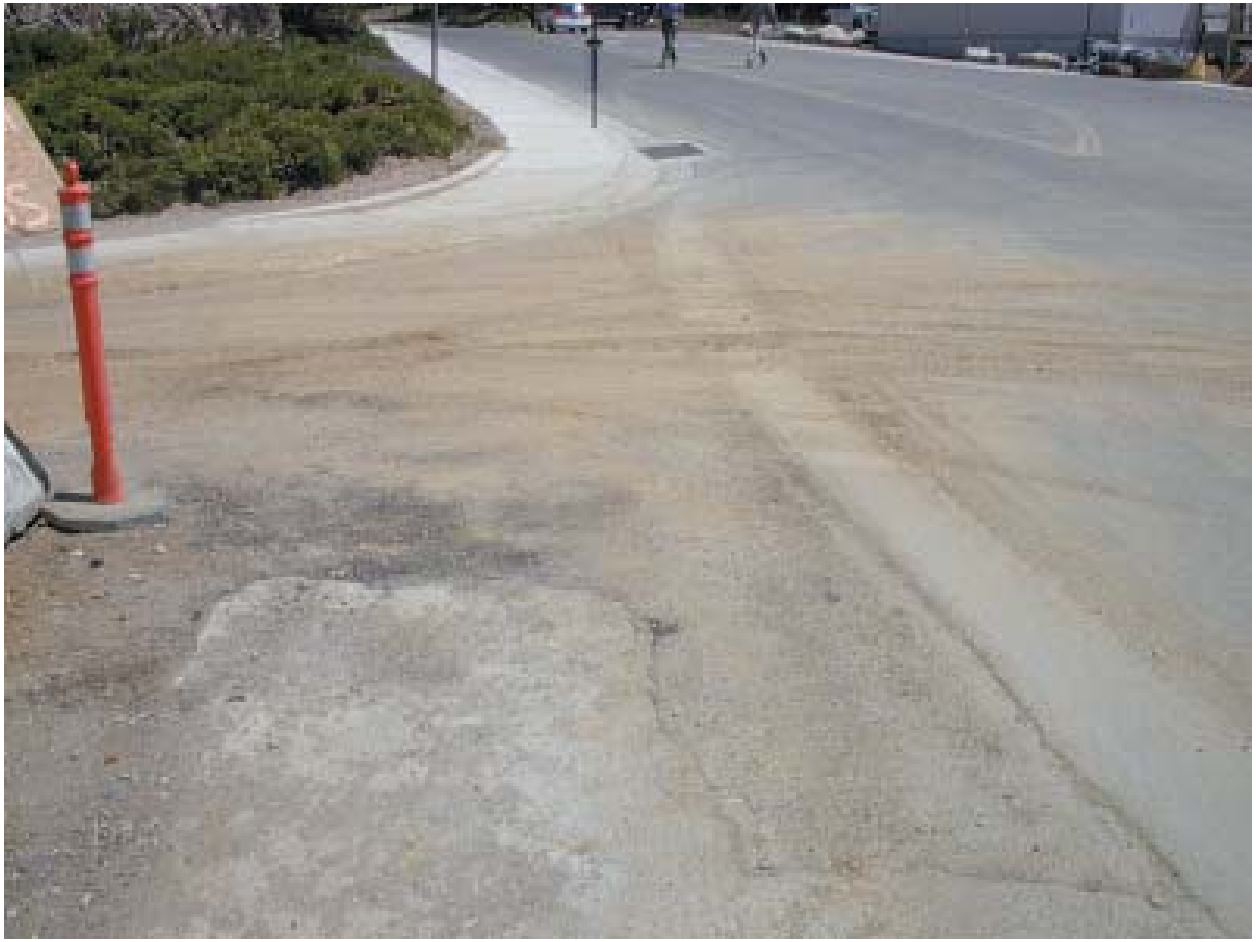


Site stabilization

Good…

Maintaining site entrances

Bad…

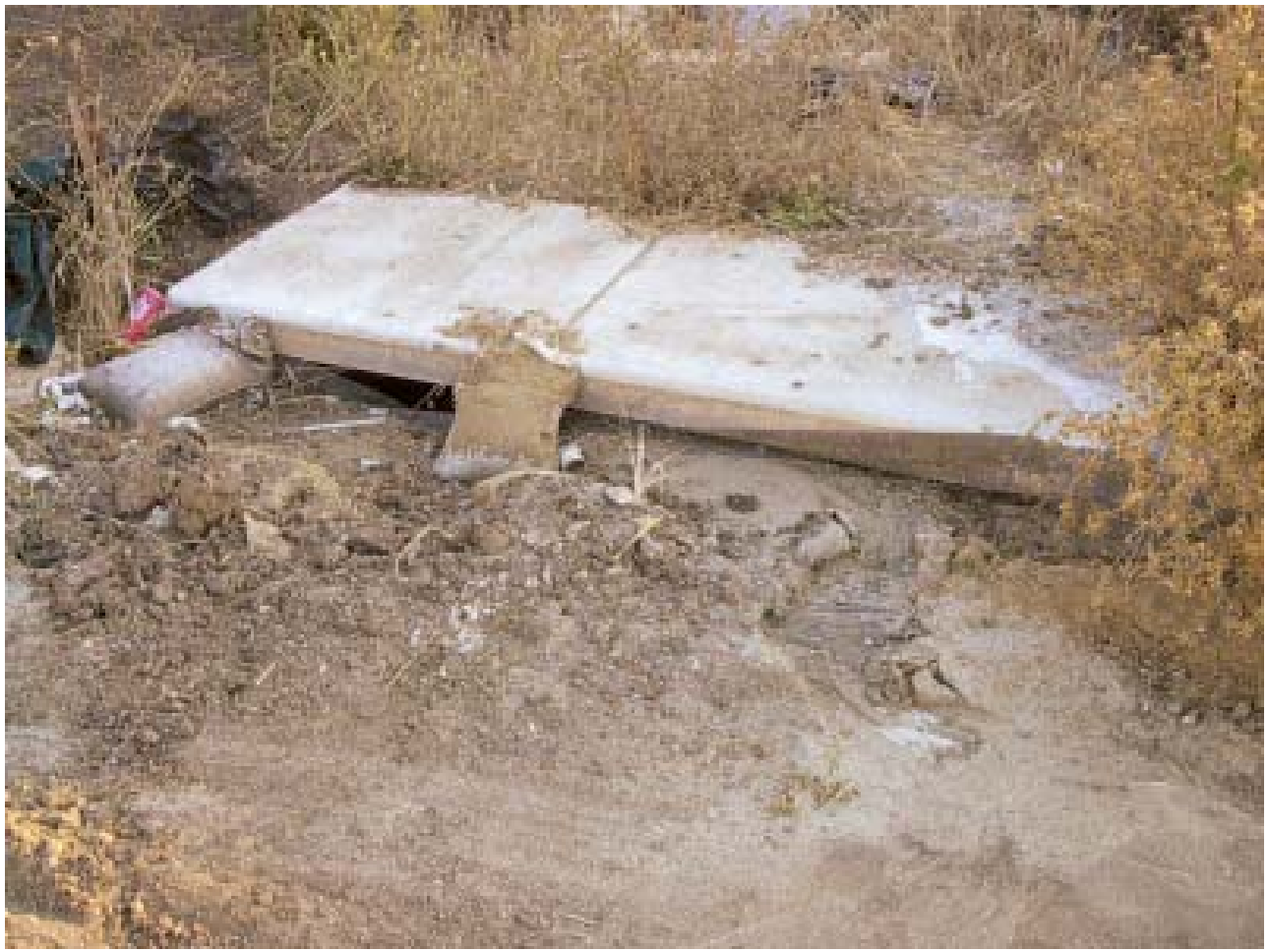


Maintaining site entrances

Good…

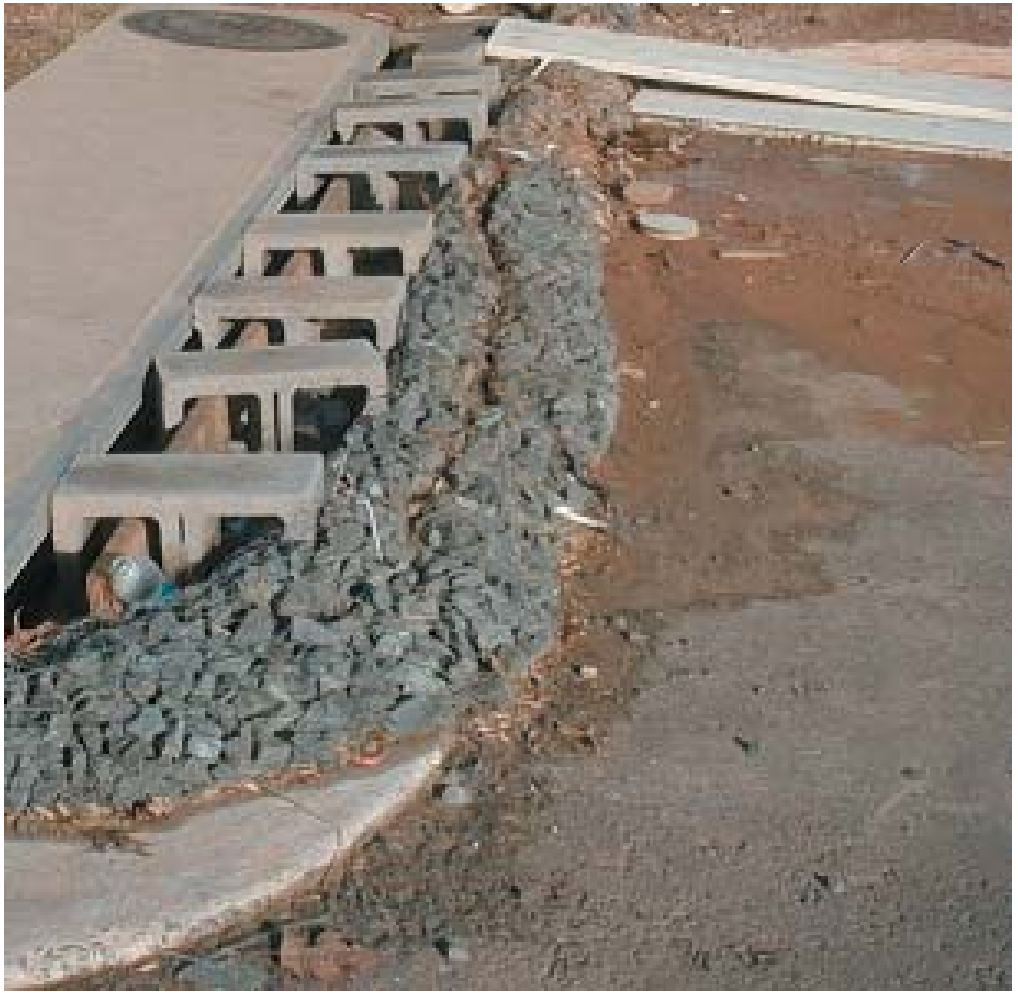
Inlet protection

Bad…



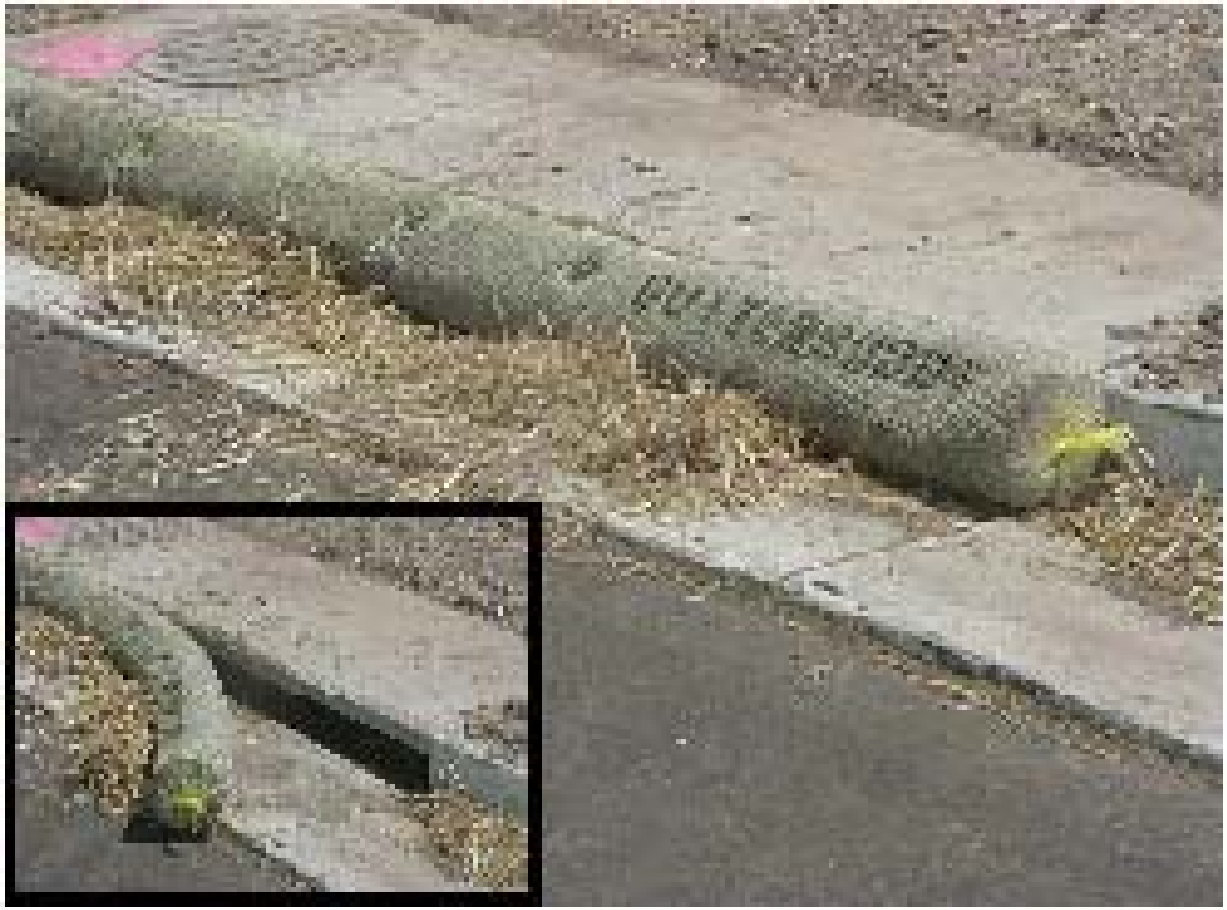
Inlet protection

Good?



Inlet protection

Good…



Inlet protection

Good…

Dewatering

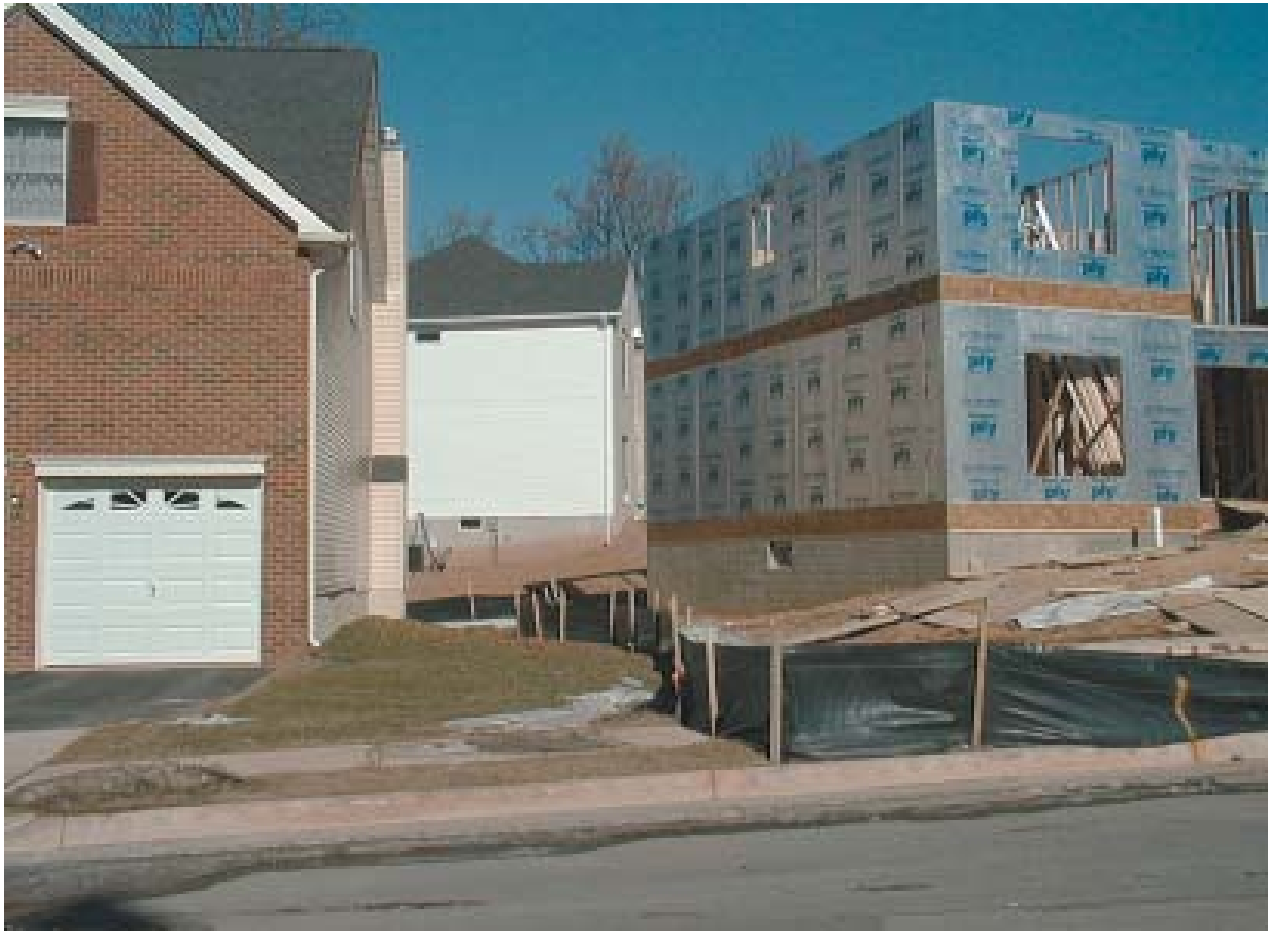
Good…

Phasing construction

Bad…

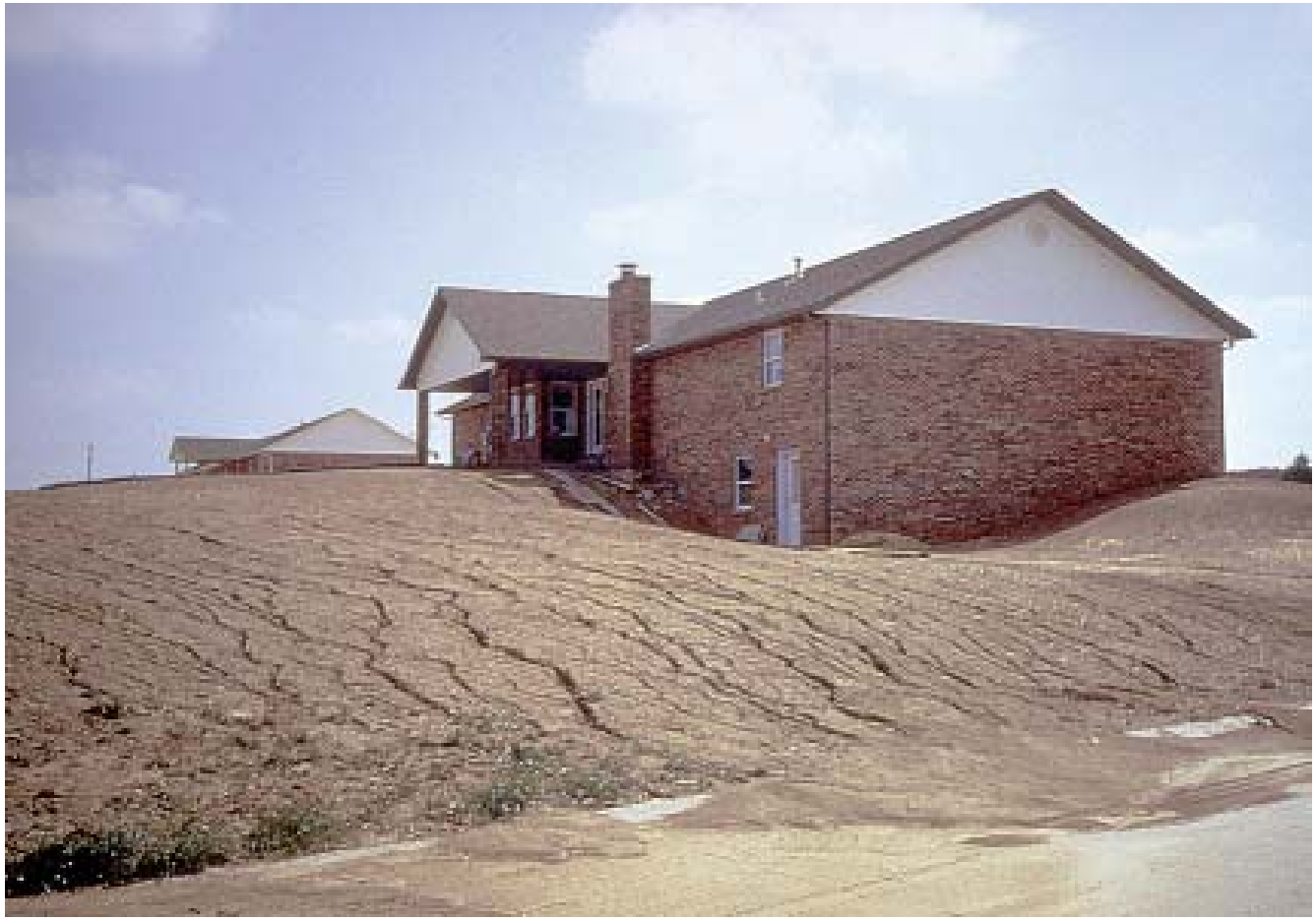
Phasing construction

Good?



Maintaining slopes

Bad…



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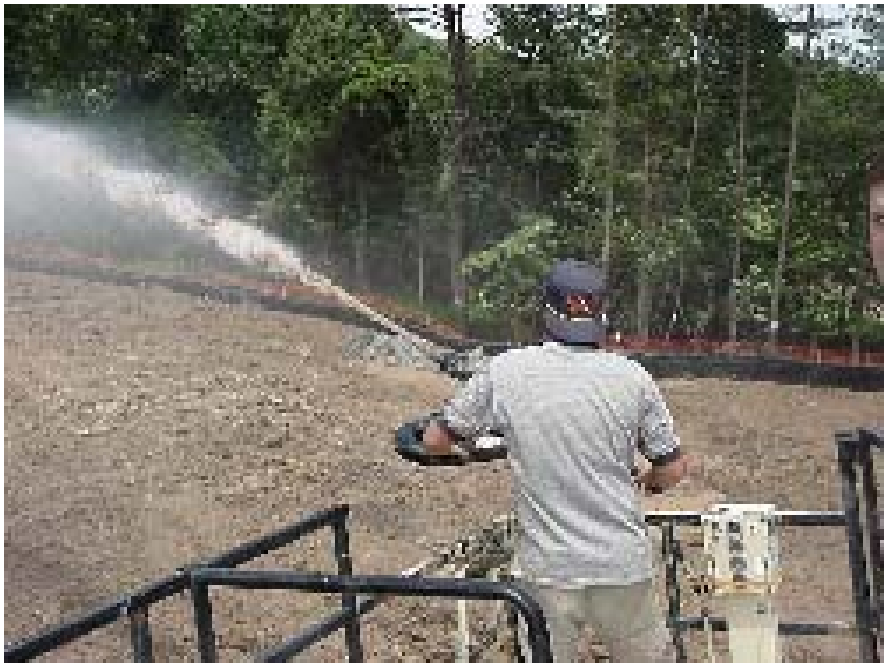
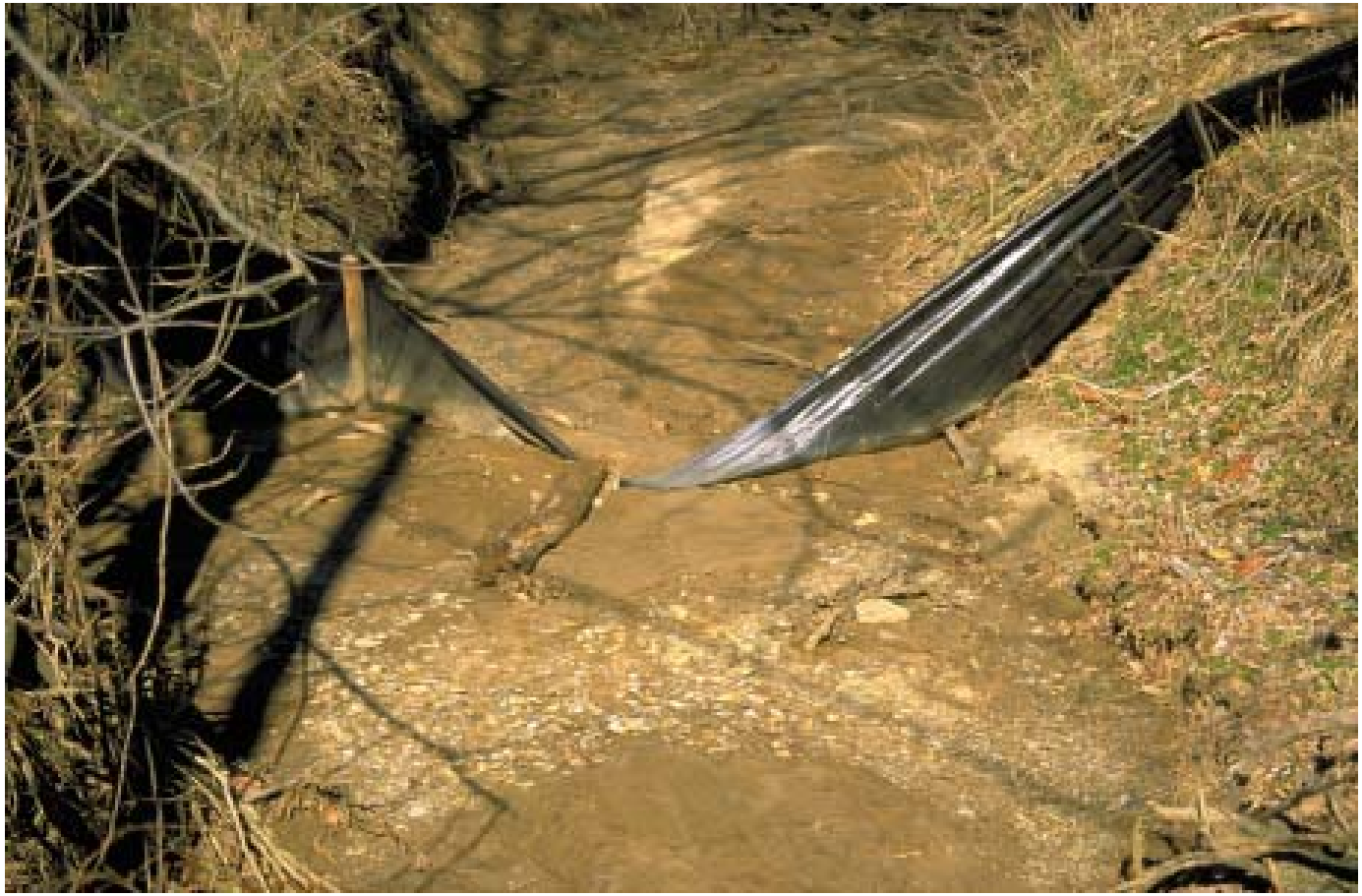


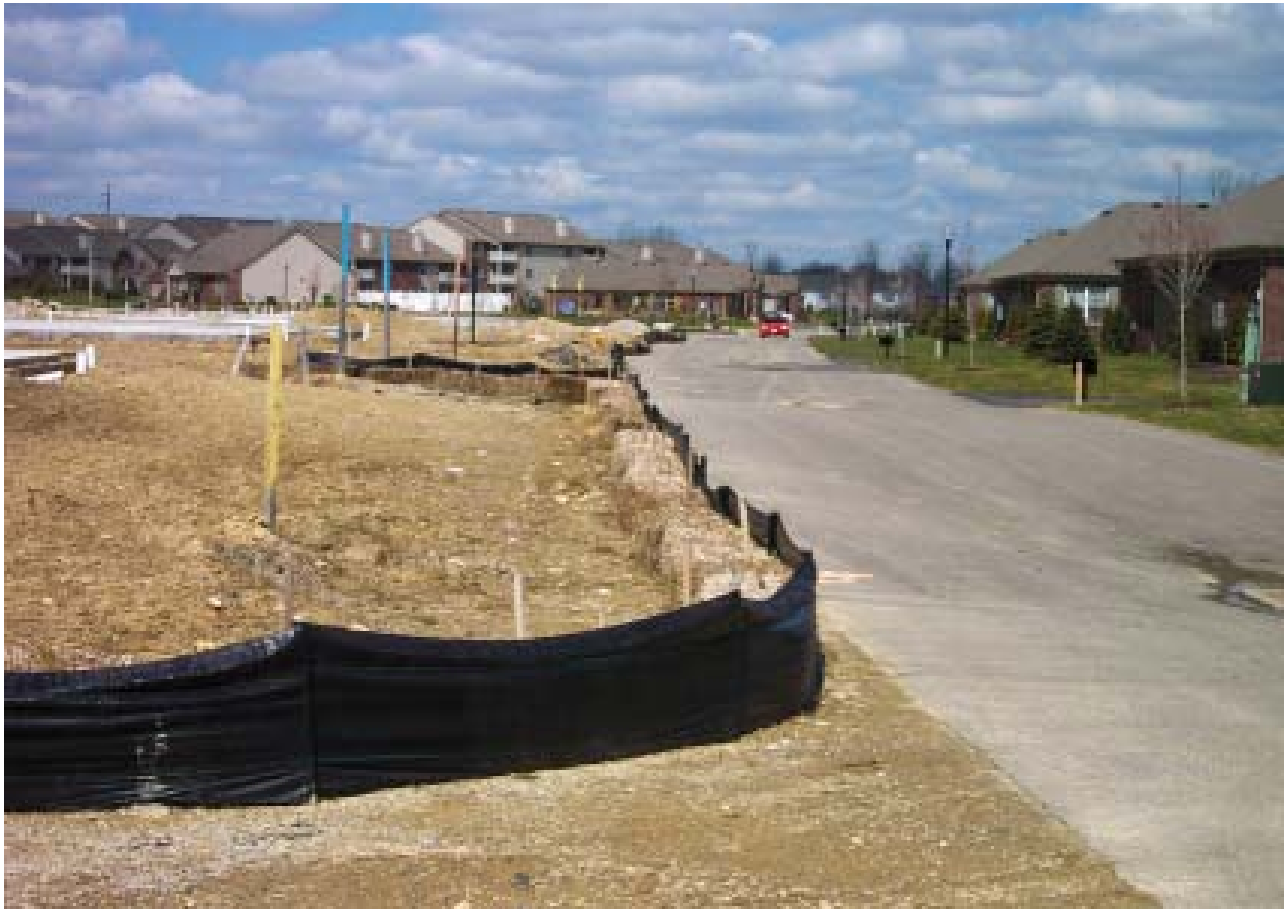
Silt Fence?

Bad…



Silt Fence?

Better…



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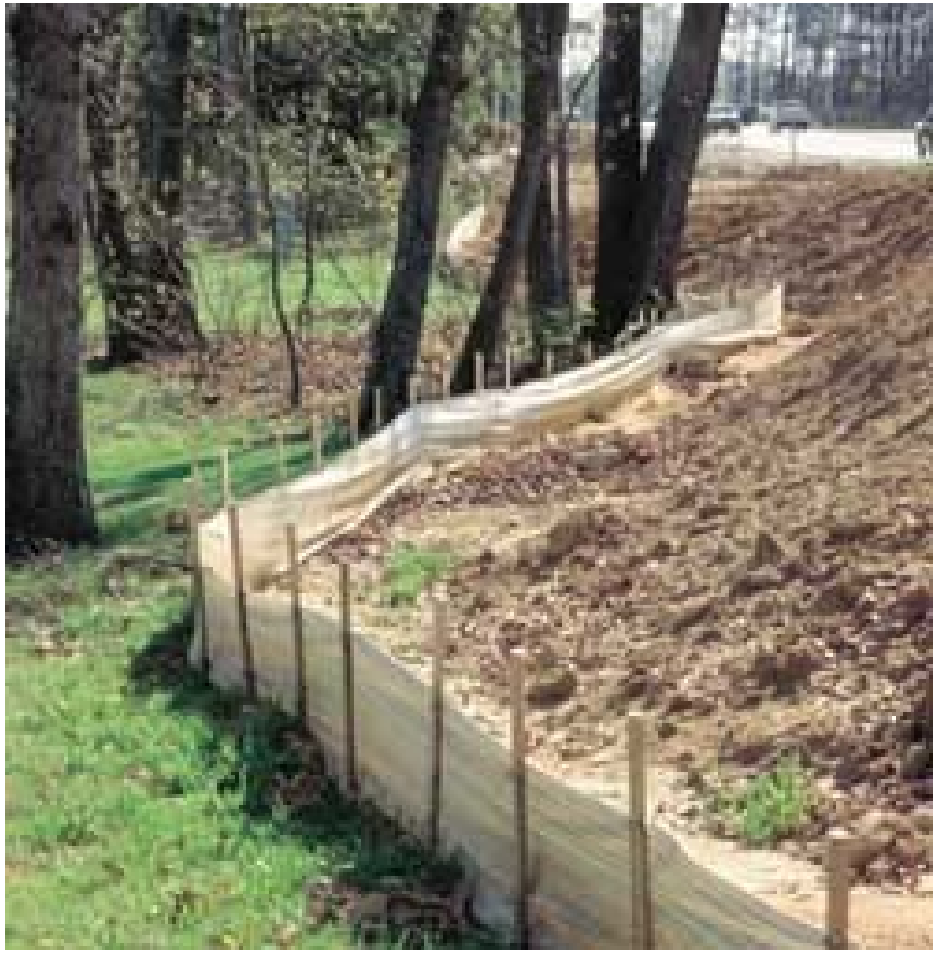

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